REMARKS

Favorable reconsideration is respectfully requested.

The claims are 1-12.

Claims 1-6, 9 and 12 stand rejected under 35 U.S.C. 10 3(a) as being unpatentable over Yamachika et al. (U.S. 5,679,495) in view of Padmanaban et al. (U.S. 5,852,128).

This rejection is respectfully traversed.

The rejection is apparently based on the contention that Yamachika discloses a similar photoresist composition containing a resinous ingredient which is a ternary copolymeric resin consisting of a combination of three different types of monomeric units (A), (B) and (C) (col. 3, lines 25-53). The monomeric unit A of Yamachika is a hydroxystyrene unit and the monomeric unit (B) is a (meth)acrylate ester unit while the unit (C) in Yamachika is a unit to reduce the alkali-solubility of the polymer of the irradiated portion, which unit can be a unit derived from a styrene compound (col. 4, line 50). On the other hand, each of the first and second copolymeric resins in claim 1 consists of a combination of three different types of monomeric units (a), (b) and (c) as defined in clam 1 so that the combinations of the monomeric units (A) ,(B) and (C) in Yamachika and (a), (b) and (c) in claim 1 may be identical.

In reply, even if a copolymeric resin consisting of the monomeric units (a), (b) and (c) is old as a resinous ingredient in a positive-working photoresist composition, the present invention is based on the fact that the resinous ingredient, i.e. component (A) in claim 1 is not a single copolymeric resin consisting of the monomeric units (a), (b) and (c) but is a combination of two different copolymeric resins each consisting of the same combination of the monomeric units (a), (b) and (c) but in different molar fractions for the respective types of the monomeric units.

In this regard, the cited references, either alone or in combination, are absolutely not suggestive of the formulation of a photoresist composition in which the resinous component is a combination of two copolymeric resins consisting of the same types of monomeric units but in different molar fractions for the respective types of the monomeric units.

Moreover, the advantages obtained with such a combination of the copolymeric resins are clear when comparison is made between Examples 1 and 2 and Comparative Examples 1 and 3 of the application in respect of the cross-sectional profile of the patterned resist layer, photosensitivity, pattern resolution and other properties.

In addition, attention is directed to the fact that, while the molar fraction of the monomeric unit (B), i.e. (meth)acrylate ester units, in the resin of Yamachika is preferably from 20 to 50% (col. 4, line 5), the molar fraction of the monomeric unit (c) herein is limited in claim 1 to the ranges of 12-18% for the first resin and 2-8% for the second resin.

Accordingly, the rejection over Yamachika in view of Padmanaban is untenable.

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Y Yamachika et al. (U.S. 5,679,495) in view of Padmanaban et al. (U.S. 5,853,128) as applied to claim 1 above, and further in view of Sato et al. (U.S. 5,995,240).

This rejection is also respectfully traversed.

The rejection contends that Sato teaches addition of an organic carboxylic acid compound to a photoresist composition. In reply, since the types of the base resin are very different between Sato and the present invention, Sato cannot be suggestive of the advantage of a carboxylic acid obtained in the present invention.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamachika et al. (U.S. 5,679,495) in view of Padmanaban et al. (U.S. 5,852,128) as applied to claim 1 above, and further in view of Watanabe et al. (U.S. 5,972,559)

The rejection relies on Watanabe as one of the secondary references alleging equivalence of N,N-dimethylacetamide to triethylamine and triethanolamine. In view of the very great difference in the types of the base resins between Watanabe and the present invention, similar arguments to those above against the carboxylic acid rejection are applicable here.

The secondary references fail to overcome the deficiencies of Yamachika in view of Padmanaban as discussed above.

For the foregoing reasons, it is apparent that the rejections on prior art are untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

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